

KSBC

Kit for SBX series shear beam load cells to weigh silos, conveyor belts and rigid structures.



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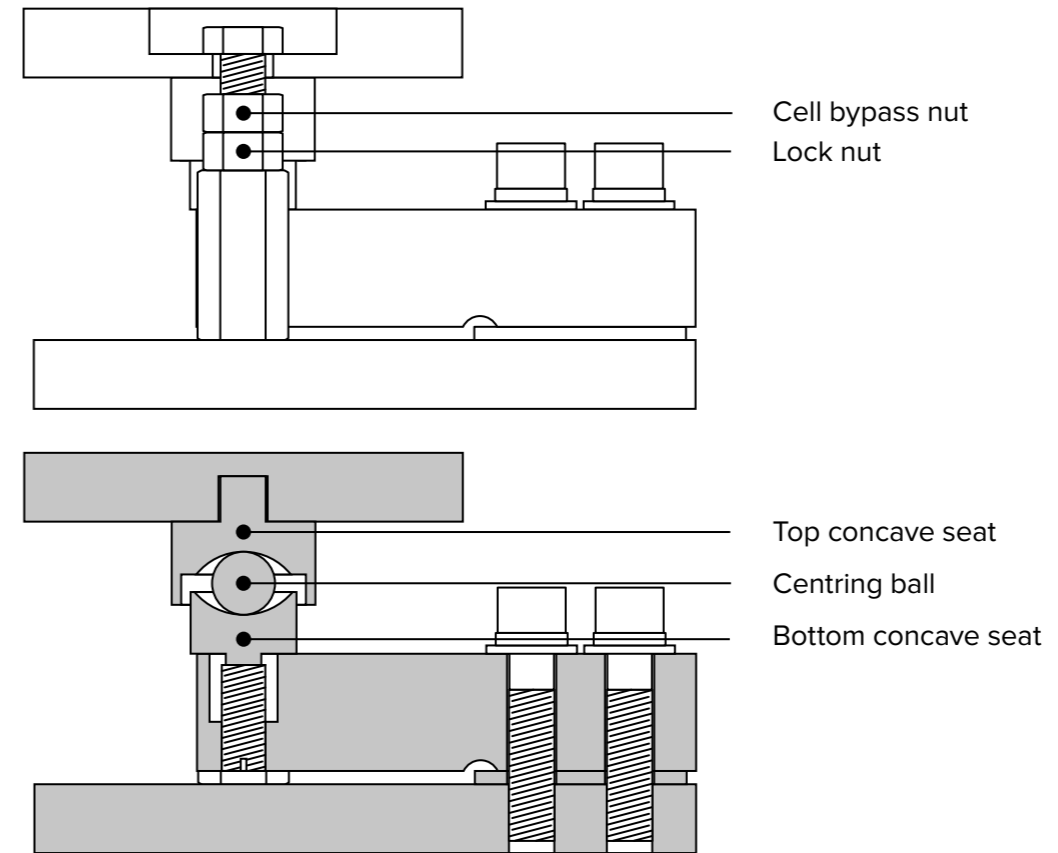
The KSB kit is a compact mechanical assembly entirely made of nickel-plated steel, designed to speed up and simplify the installation of the SBX series shear beam load cells up to 2500 kg under silos, hoppers, tanks and other rigid structures.

BENEFITS

The KSB kit offers a number of benefits:

- It makes the cell easier to install and remove.
- It protects the cell when the structure is moved and transported.
- It compensates for any expansion of the structure (within the limits reported in the table on page 5)

MAIN PARTS OF THE KIT

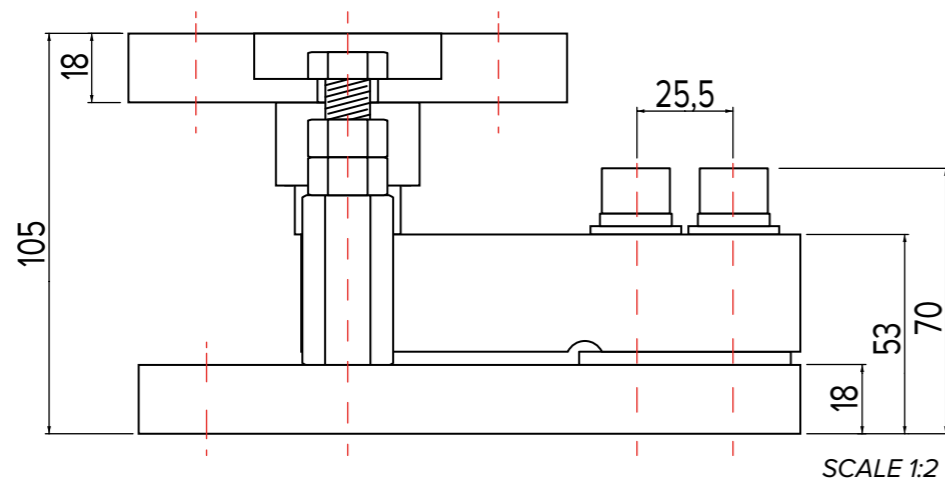
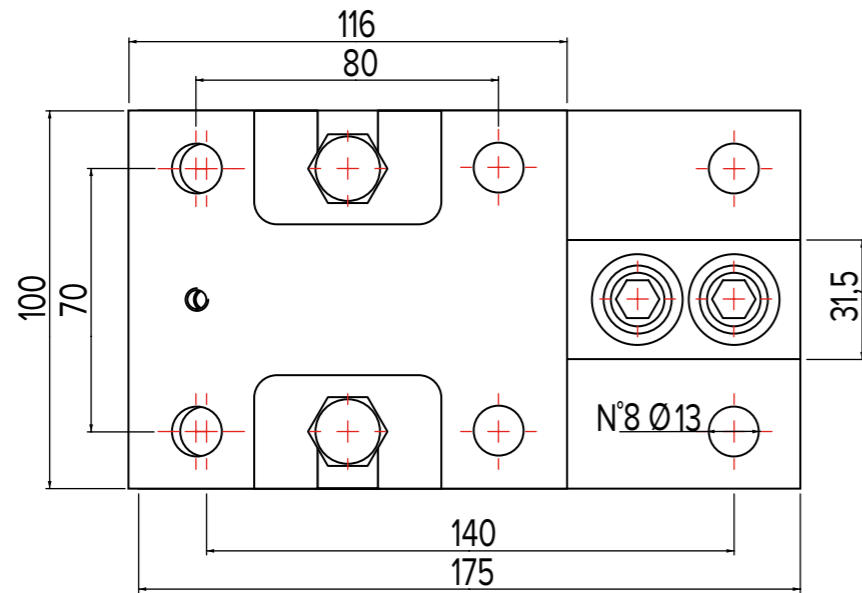


Use the following to assemble and adjust the kit:

- 10, 19, 21 spanner
- 10 Allen wrench

DIMENSIONS in mm

■ KSBC



TECHNICAL FEATURES

| | | KSBC |
|--|-------------------|--------------------------|
| COMPATIBLE LOAD CELLS | | SBX SERIES UP TO 2500 kg |
| MATERIAL | | NICKEL-PLATED STEEL |
| WEIGHT (kg) | WITH LOAD CELL | 4.3 |
| | WITHOUT LOAD CELL | 3.3 |
| SAFETY LOAD IN COMPRESSION | WITH LOAD CELL | 120% F.S. |
| | WITHOUT LOAD CELL | 2500 kg |
| COMPRESSIVE STRENGTH | WITH LOAD CELL | 300% F.S. |
| | WITHOUT LOAD CELL | 3000 kg |
| SAFETY LOAD IN TRACTION | WITH LOAD CELL | 1000 kg |
| | WITHOUT LOAD CELL | 1000 kg |
| TENSILE STRENGTH | WITH LOAD CELL | 1500 kg |
| | WITHOUT LOAD CELL | 1500 kg |
| MAXIMUM ANGLE OF THE SUPPORTING LEVEL | | +/- 1° |
| EXPANSION COMPENSATION | ← → | +/- 5 mm |
| | ↑ ↓ | +/- 5 mm |
| ATEX EX MARKING | | - |

INSTALLATION

ASSEMBLY AND ADJUSTMENTS OF KIT

1. KIT ASSEMBLY

We recommend performing the following assembly of the kit to achieve precise and reliable weighings.

Tighten the spacer plate and the load cell with the two Allen screws and self locking washers (fig 1).

Screw the bottom concave seat on the cell, then placing the ball, top concave seat and upper plate on top of it (fig 2).

Screw and tighten the support turrets in the lower plate. Screw the two bolts into these, inserting two

nuts on each side between the turret and the upper plate (fig 3).

Bring the two bolts to the same height flush with the upper plate, screw them half a turn and clamp the support nuts to the turrets.

The configuration obtained puts the kit in the weighing condition (fig 4).

fig 1

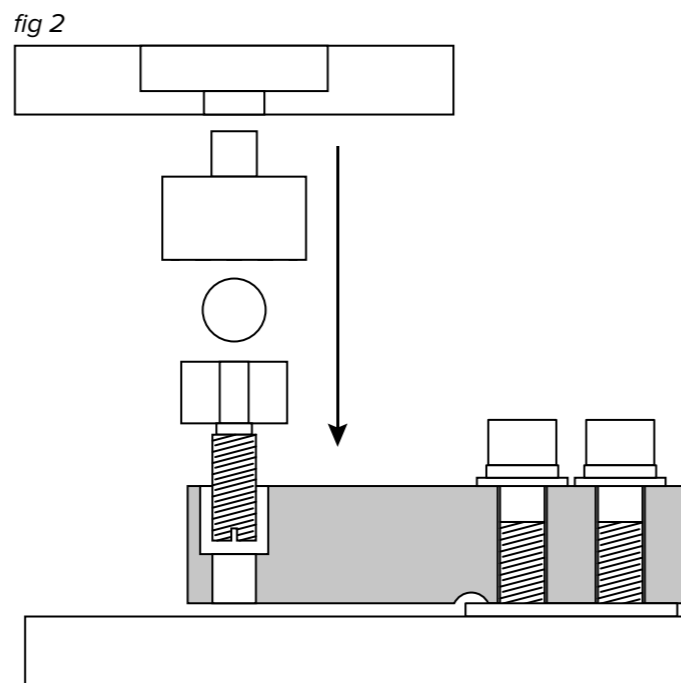
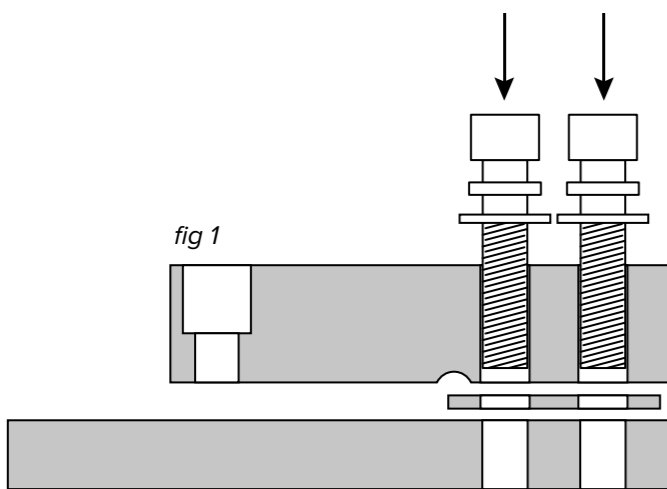


fig 3

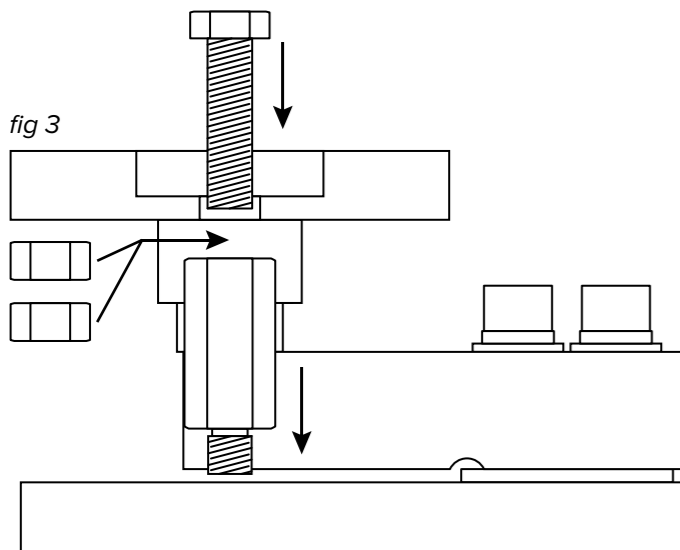
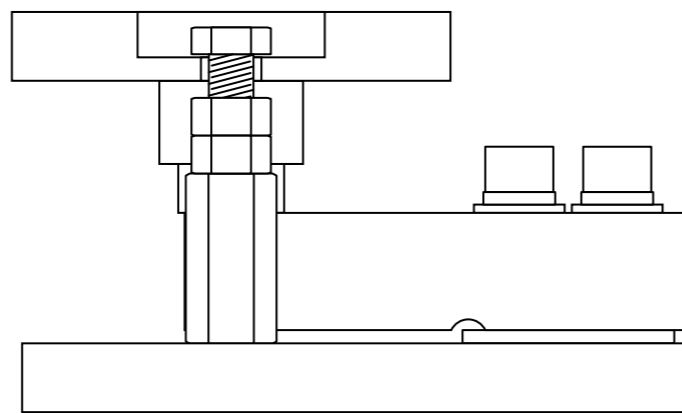


fig 4

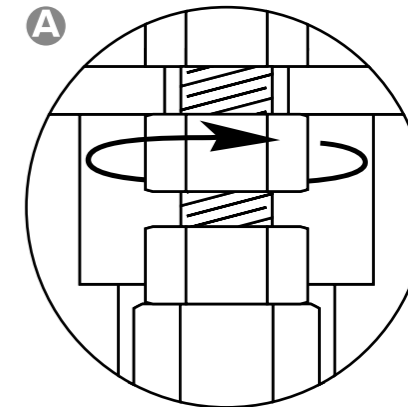
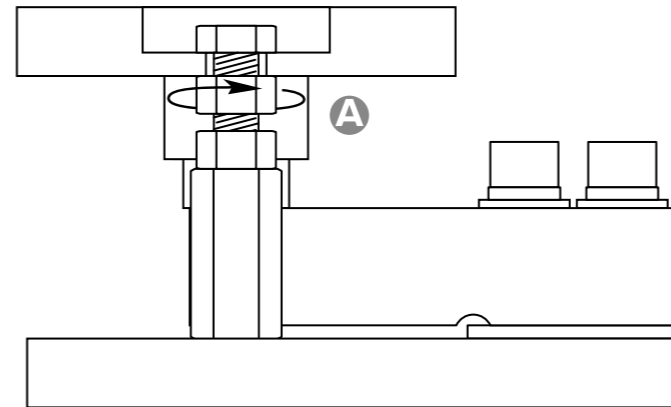


2. CELL BYPASS

Thanks to this feature, the weight of the structure is discharged directly on the kit, thereby bypassing the load cell.

To bypass the cell (fig 6, det. A), bring the bypass nuts flush with the upper plate and tighten them firmly.

fig 5



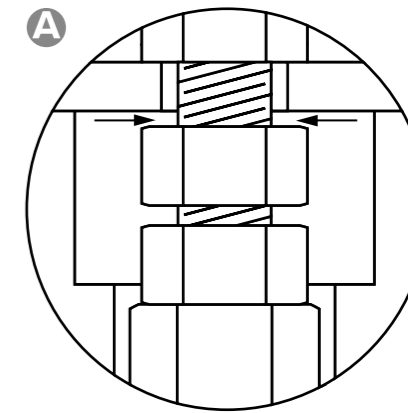
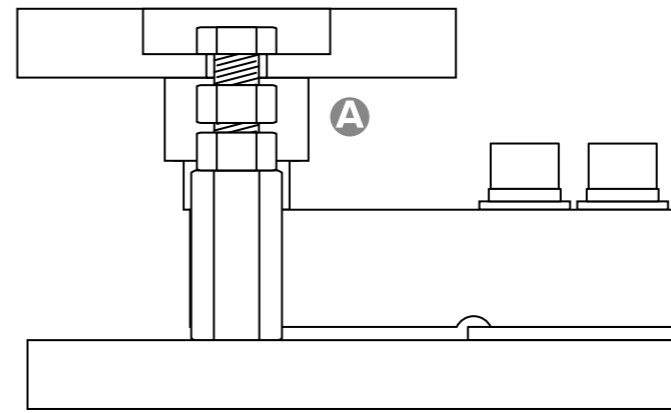
3. LIMIT SWITCH ADJUSTMENT

A simple and effective solution to withstand overloading by moving the weight from the cell to the two support turrets of the kit by means of a quick configuration.

To configure the bypass nuts in limit switch mode:

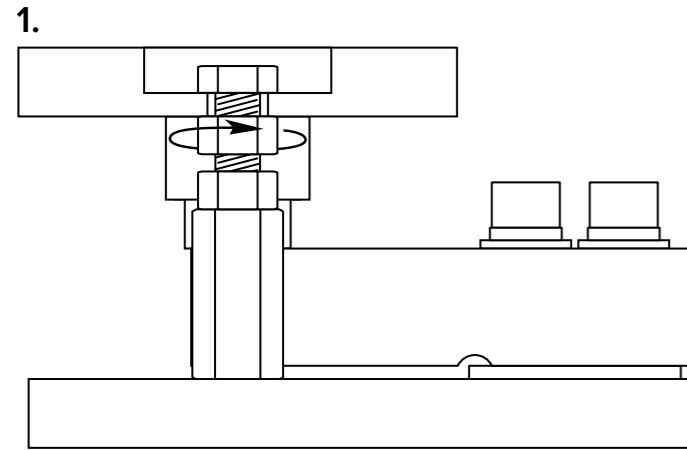
- load the structure according to the maximum pre-set capacity (within the loading limits of the cell)
- adjust the bypass nuts, placing them flush against the upper plate
- with the structure empty, there will be a gap between the bypass nuts and the upper plate (fig 7, det. A)

fig 6

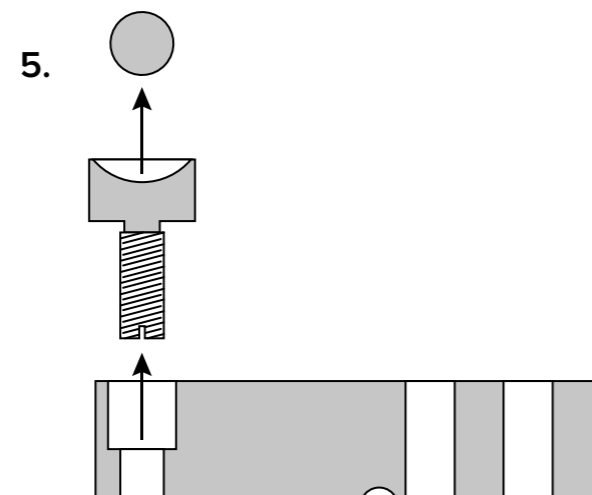
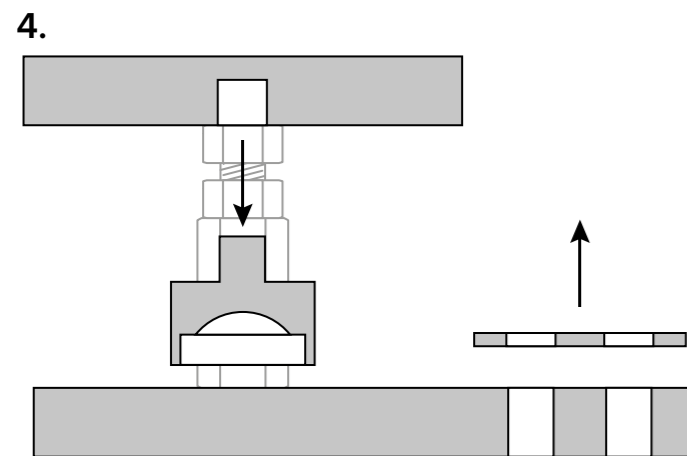
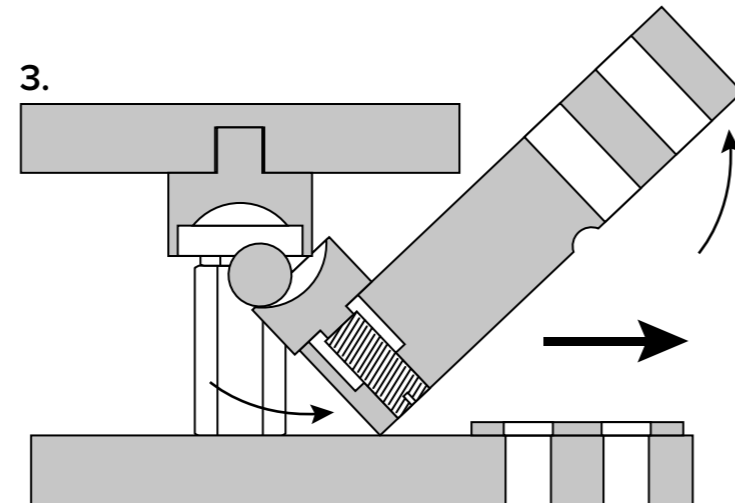
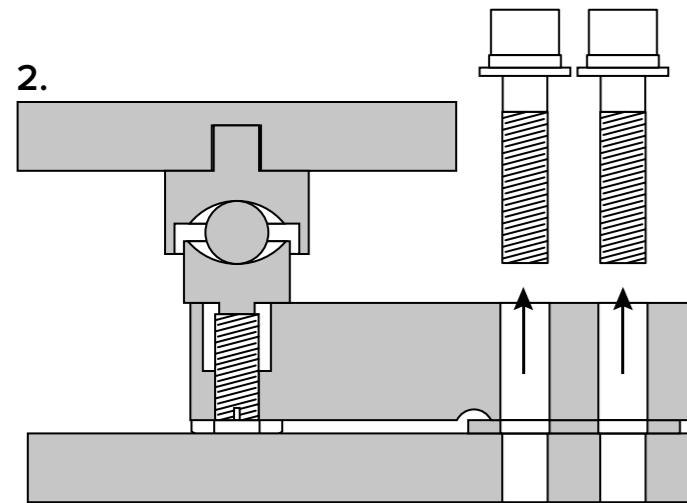


REMOVAL/INSERTION OF LOAD CELL

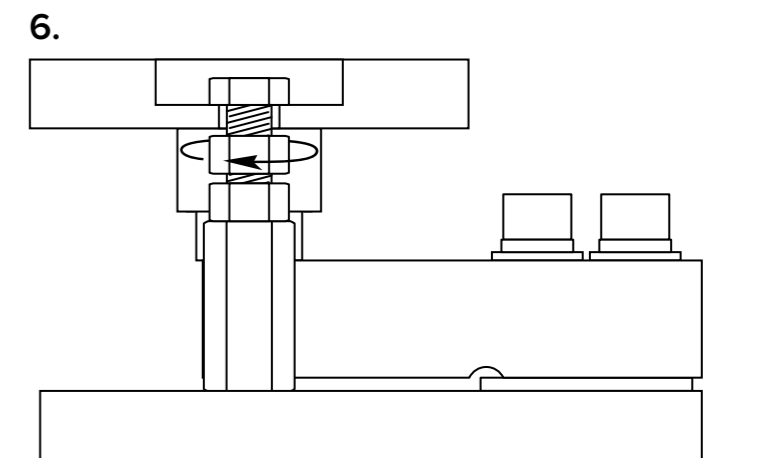
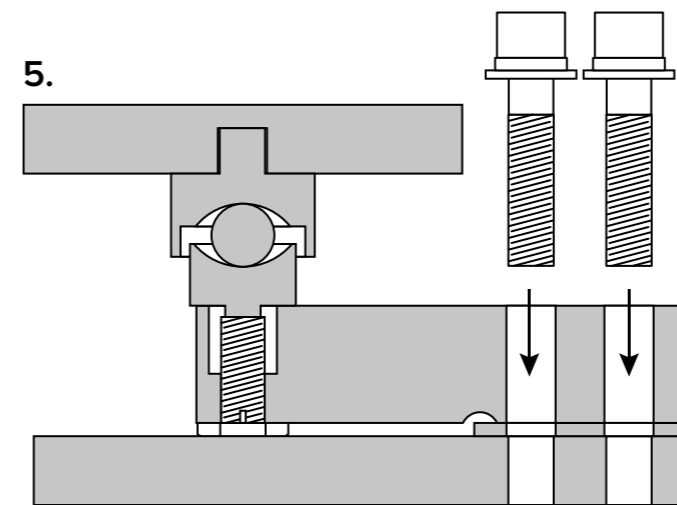
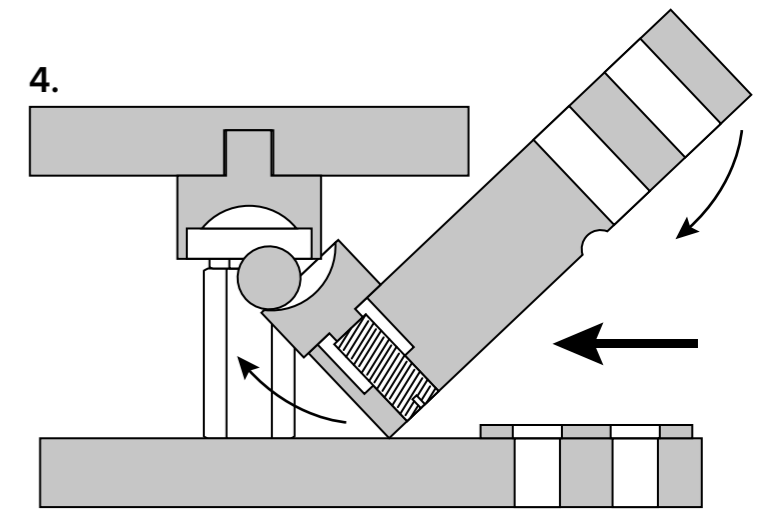
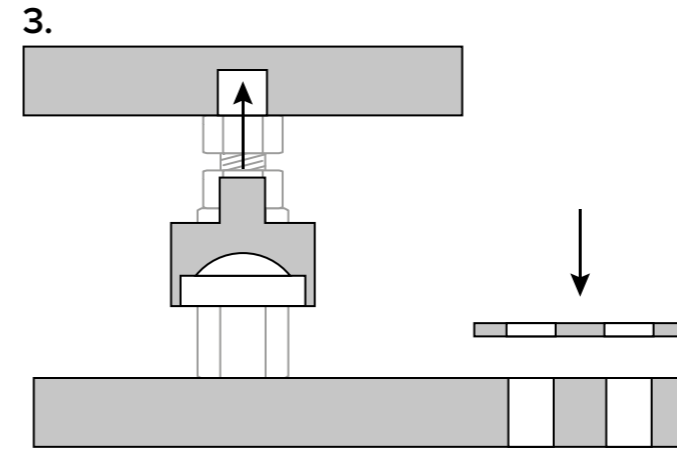
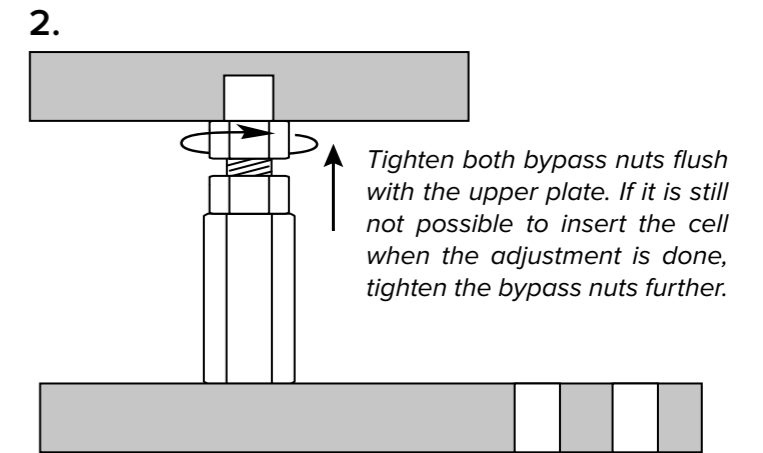
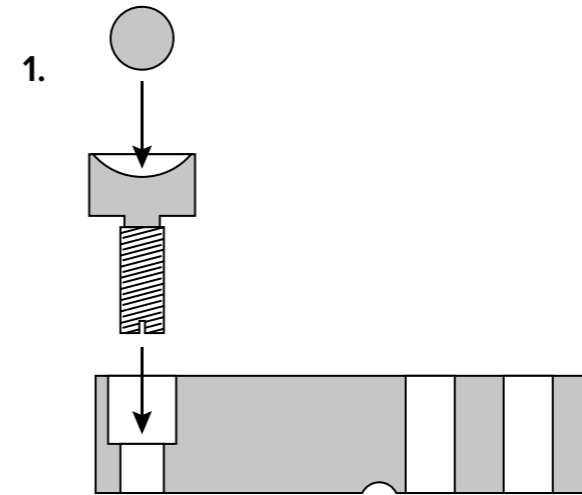
1. LOAD CELL REMOVAL



Tighten both bypass nuts flush with the upper plate. If it is still not possible to remove the cell when the adjustment is done, tighten the bypass nuts further.



2. LOAD CELL INSERTION



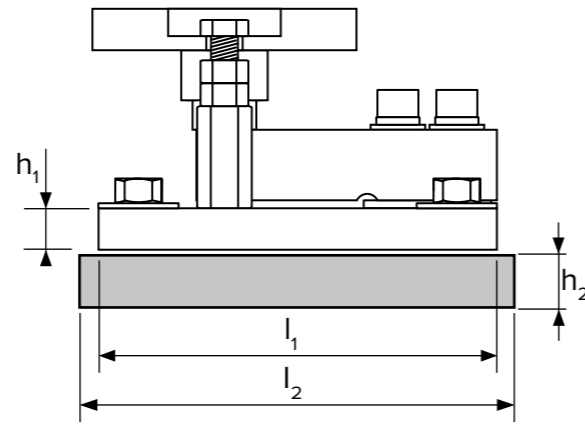
INSTALLATION TIPS

SUPPORTING BASIC FEATURES

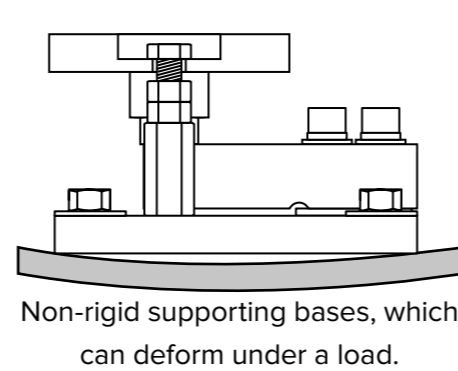
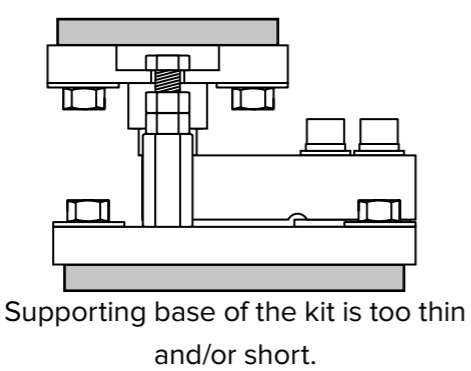
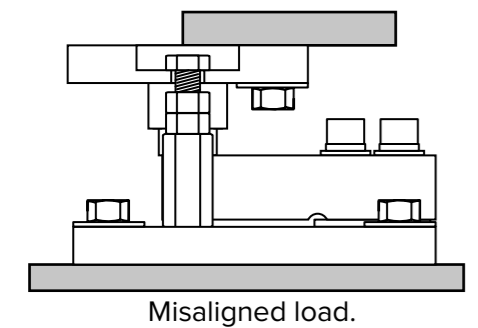
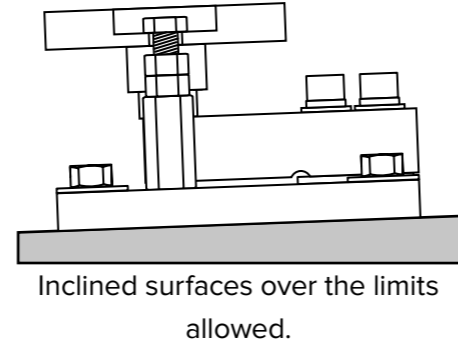
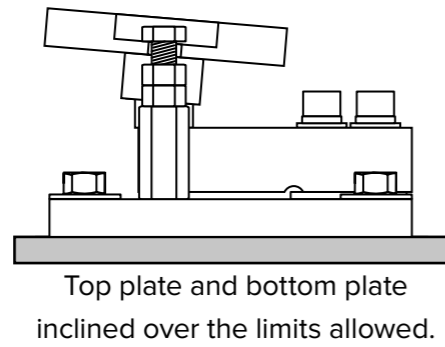
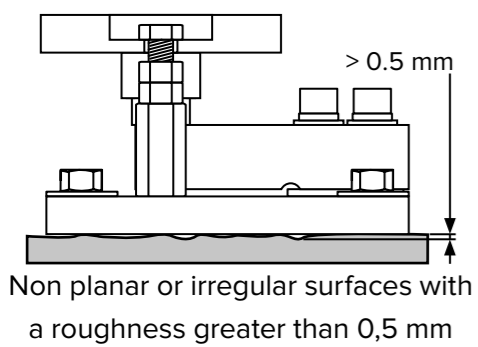
The supporting base of the weighing kit must be extremely rigid and have a suitable surface and thickness to ensure the lower plate of the KSBC kit works properly. Calculate the thickness h_2 according to the precision, the structure to be supported and the environmental conditions. You may want to consider the following, at least:

$$h_2 \geq h_1 \text{ and } l_2 \geq l_1$$

| | | |
|-------------|--------------------------|--------------------------------------|
| KSBC | $h_2 \geq 15 \text{ mm}$ | $l_2 \geq 180 \times 120 \text{ mm}$ |
|-------------|--------------------------|--------------------------------------|

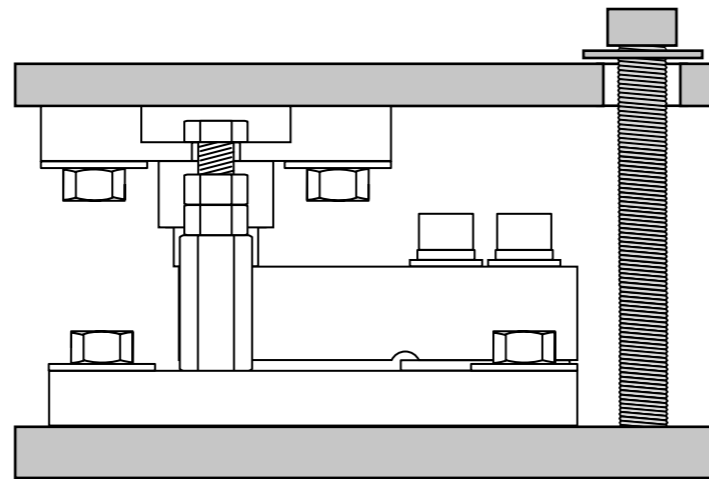


TO BE AVOIDED



ANTI-TILTING SOLUTION

The KSBC kit does not have an anti-tilting function for the forces referred to in the table on page 5. If the reported values are exceeded, we recommend increasing the protection of the weighing structure by adding adequately sized additional anti-tilting systems. It is good practice to adjust the system so as to leave a stroke of no more than 2 mm.



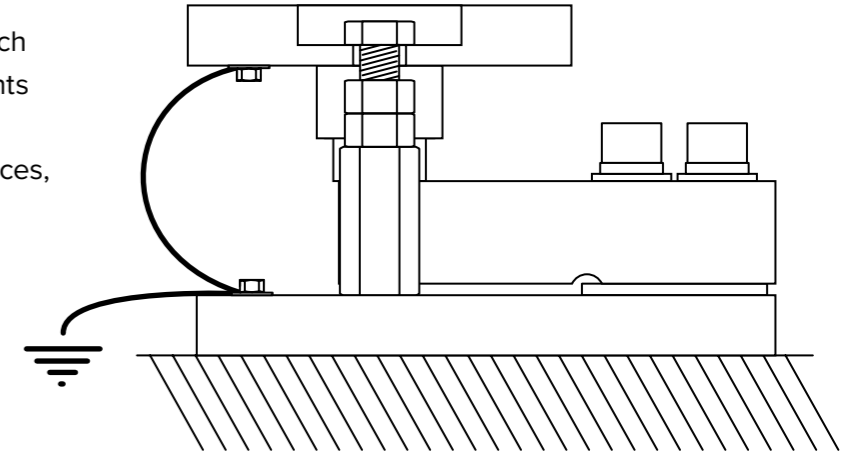
Example of anti-tilting solution with threaded bar.

EARTH CONNECTION

The kit includes an earth connection cable which is recommended for installations in environments where electrostatic discharges are highly likely (presence of powder, plastic, synthetic substances, etc.).

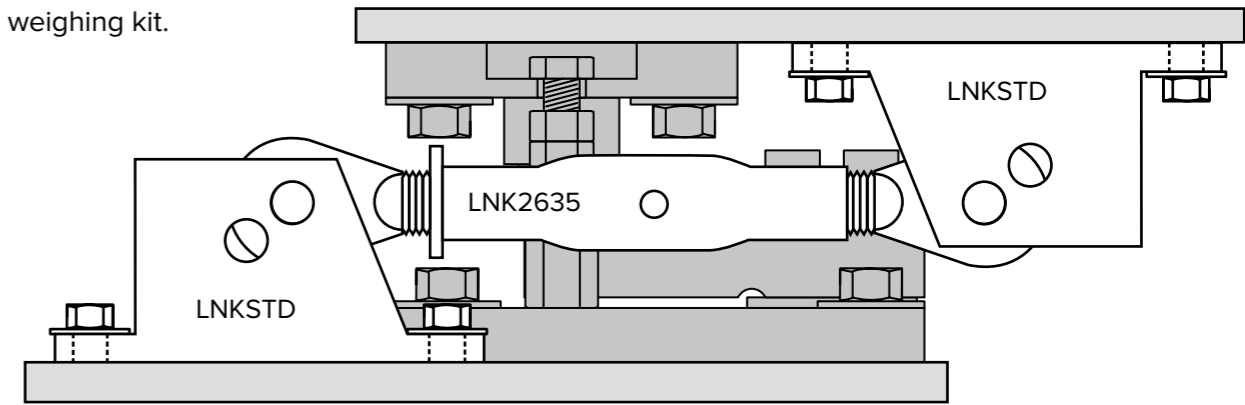
CABLE SECTION

In case of high intensity electrostatic discharges, it is recommended to use a cable with a larger cross-section, no smaller than 16 mm^2 . Use an eyelet terminal of adequate diameter to connect the cable to the kit.

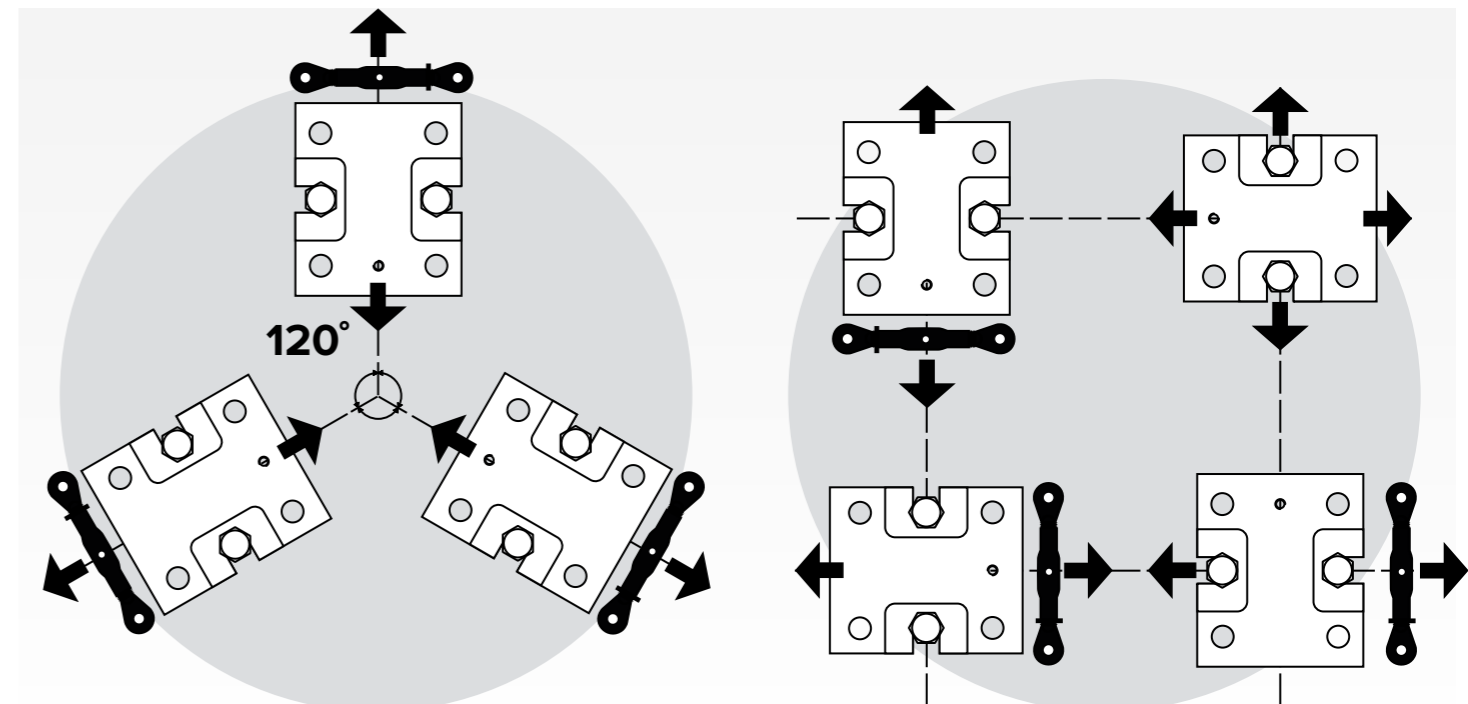


TENSIONERS FOR LATERAL FORCES

Ideal to counter any lateral forces such as wind, expansions and accidental impacts that could affect the operation of the weighing kit.



Examples of recommended layout





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